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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,625	03/08/2001	Adolphe Johannes Gerardus Ruigt	NL 000095	8317

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EXAMINER	
KOVALICK, VINCENT E	
ART UNIT	**PAPER NUMBER**
2673	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/801,625	RUIGT, ADOLPHE JOHANNES GERARDUS	
	Examiner	Art Unit	
	Vincent E Kovalick	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3 , 7-13 and 15-19* is/are allowed.

6)☒ Claim(s) *1,2 and 4-6* is/are rejected.

7)☒ Claim(s) *20 and 21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Applicant's Amendment dated July 1, 2004 in response to USPO Office Action dated December 8, 2003.

The amendments to claims 1-7, 9 and 15-19; the cancellation of claim 14, the addition of new claims 20-21 and Applicant's remarks have been carefully considered and entered in the record.

Applicant's remarks relative to claim 1 are rendered moot in view of the amendment to claim 1, and the introduction of new prior art used in the rejection of amended claim 1, said rejection necessitated by said amendment.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2 and 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann et al. (USP 5,805,131) taken with Edwards (USP 5,923,311).

Relative to claim 1, Hartmann et al. **teaches** a ferroelectric display device with temperature compensation (col. 1, lines 55-67 and col. 2, lines 1-52); Hartmann et al. further **teaches** a liquid crystal display device comprising a first substrate provided with one or more first electrodes, a

second substrate provided with one or more second electrodes in which, viewed perpendicular to the substrates, overlapping parts of the electrodes define pixels, wherein the display device is provided with means for adjusting an operating voltage of the liquid crystal display (col. 4, lines 12-43) by: supplying an input voltage to a measuring element positioned between the first and second substrates; measuring a current through the measuring element, the current based on the input voltage; determining a derived current using the measured current; and adjusting the operating voltage using the derived current (col. 4, lines 32-42).

Hartmann et al. **does not teach** said liquid crystal material being a twisted nematic liquid crystal material between the two substrates.

Hartmann et al. teaches a ferroelectric display device with temperature compensation.

Edwards **teaches** a matrix display device (col. 2, lines 26-67; col. 3, lines 1-67 and col. 4, lines 1-14); Edwards further **teaches** said liquid crystal material being a twisted nematic liquid crystal material between the said two substrates (col. 4, lines 36-48 and Fig. 1).

It would have been obvious to a person of ordinary skill in the art the time of the invention to provide to the device as taught by Hartmann et al. the feature as taught by Edwards in order to put in place a LC material with a twisting molecular structure to control the transmissive and reflective states of the display by controlling the electric field controlling the disposition of the said molecules.

Regarding claim 2, Hartmann et al. further **teaches** said liquid crystal display device wherein the means for adjusting the operating voltage of the display device comprises means for measuring a current of the measuring element (col. 4, lines 32-60).

Relative to claim 4, Hartmann et al. **teaches** a LCD device wherein the means for adjusting the operating voltage of the display device comprise means for raising the operating voltage and measuring the peak current in the measuring element (col. 2, lines 45-52).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann et al. taken with Edwards as applied to claim 1 in item 3 hereinabove, and further in view of Hodemaekers (USP 4,298,866).

Relative to claim 5, Hartmann et al. taken with Edwards **does not teach** said liquid crystal display device wherein the means for adjusting the operating voltage of the display device comprise means for adjusting the operating voltage of the display device comprises means to measuring the capacitance of the measuring element.

Hartmann et al. taken with Edwards teaches a LCD device with twisted nematic liquid crystal material.

Hodemaekers **teaches** a liquid crystal display device having capacitance compensation (col. 1, lines 5-62); Hodemaekers further **teaches** the said LCD device characterized in that the means for adjusting the operating voltage of the display device comprises means to measuring the capacitance of the measuring element (col. 5, lines 58-65).

It would have been obvious to a person of ordinary skill in the art the time of the invention to provide to the device as taught by Hartmann et al. taken with Edwards the feature as taught by Hodemaekers in order to put in place the means for measuring the capacitance of the of the measuring element in order to adjust the operating voltage based on said capacitance.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann et al. taken with Edwards as applied to claim 1 in item 3 hereinabove, and further in view of

Kawakami et al. (USP 5,949,194).

Regading claim 6, Hartmann et al. taken with Edwards **does not teach** said LDC device characterized in that the measuring element comprises a pixel.

Hartmann et al. taken with Edwards teaches a LCD device with twisted nematic liquid crystal material.

Kawakami et al. **teaches** a display element drive method (col. 2, lines 45-67 and col. 3, lines 1-28); Kawakami et al. further **teaches** said LDC device wherein the measuring element comprises a portion of the liquid crystal material (col. 4, lines 58-67 and col. 5, lines 1-23).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Hartmann et al. taken with Edwards the feature as taught by Kawakami et al. in order to adjust the supply voltage to the LC material making up the pixels.

Allowable Subject Matter

6. Claims 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 10, the major difference between the teachings of the prior art of record (USP 5,805,131, Hartmann; USP5,923,311, Edwards and USP 4,298,866, Hodemaekers) and that of the instant invention is that said prior art of record **does not teach** a LCD device wherein the means for adjusting are capable of adjusting the operating voltage using the derived current by identifying a maximum value in the derived current; and identifying a voltage in a sawtooth voltage signal that is coincident with the maximum value in the derived current, the identified

voltage in the sawtooth voltage signal comprising the operating voltage of the LCD device,

7. Claims 3, 7-13 and 15-19 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Relative to claim 3, the major difference between the teachings of the prior art of record and that of the instant invention is that said prior art of record **does not teach** a LCD device comprising means for adjusting the operating voltage of the said display device comprising means for raising the operating voltage and simultaneously measuring the current through the measuring element.

Regading claim 7, the major difference between the teachings of the prior art of record and that of the instant invention is that said prior art of record **does not teach** a LCD device comprising a controller operable to adjust an operating voltage of the LCD device based on one or more measurements involving the measuring element by raising the operating voltage and simultaneously measuring a current through the measuring element.

Relative to claim 9, the major difference between the teachings of the prior art of record and that of the instant invention is that said prior art of record **does not teach** a LCD device wherein the controller is operable to adjust the operating voltage of the liquid crystal display device such that a transmission strength of the pixels is fifty percent of a maximum transmission strength.

Regading claim 16, the major difference between the teachings of the prior art of record and that of the instant invention is that said prior art of record **does not teach** a LCD device wherein adjusting an operating voltage of the LCD device based on the at least one identified operational characteristic such that a transmission strength of pixels in the liquid crystal display

device is fifty percent of a maximum transmission strength.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	5,754,154	Katakura et al.
U. S. Pub. No.	2002/0180721	Klimura et al.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Responses

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vincent E. Kovalick
August 18,2004

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
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